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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,713	11/24/2003	Toshio Yoshihara	DAIN : 362C	9965

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PARKHURST & WENDEL, L.L.P.
1421 PRINCE STREET
SUITE 210
ALEXANDRIA, VA 22314-2805

EXAMINER	
ZIMMERMAN, GLENN	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/718,713	YOSHIHARA ET AL.	
	Examiner	Art Unit	
	Glenn Zimmerman	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-27* is/are pending in the application.

4a) Of the above claim(s) *27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-24* is/are rejected.

7)☒ Claim(s) *25 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *April 5, 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1103*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I claims 18-26 in the paper filed on August 24, 2004 is acknowledged. The traversal is on the ground(s) that it is believed that claims 18-27 can readily be examined in the same case, and it is pointed out that claim 27 depends from claim 18, an elected claim. This is not found persuasive, because any one of the following conditions, which are separate statutory classifications of invention, separate status in the art when they are classifiable together and different fields of search, are indicia of an undue burden. In this instance the condition of separate statutory classifications of invention has been met. See MPEP 803(B) and 808.02.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Priority

This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading "This is a divisional of Application No. 10/162,193, filed June 5,2002 now patent 6,682,594 which is a divisional of Application No. 09/330,164, filed June 11, 1999 now patent 6,428,913 which is a divisional of Application No. 08/621,581, filed March 26, 1996 now patent 5,976,236." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of all nonprovisional parent applications referenced should be included.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Please make the abstract a single paragraph and within 50 to 150 words.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Ushifusa et al. U.S. Patent 5,818,168.

Regarding claim 18, Ushifusa et al. disclose an alternating current type plasma display (abstract) comprising: a back substrate (Fig. 1A-1C;19 ref. 4b) and a front substrate (ref. 4a) provided to as to face each other with a gas discharge space (ref. 3d) sandwiched between the back and front substrates; a pair of electrodes (ref. 5a, 5b or 6a, 6b), covered with a dielectric layer (ref. 7a), provided on one or both of the substrates; and a protective layer (ref. 8a) provided on the dielectric layer, the protective layer being produced by coating a coating liquid (col. 24 line 34, 40), substantially containing a partial hydrolyzate (col. 24 lines 29-40) derived from an alkaline earth metal compound (di(n-butoxy)magnesium; col. 24 lines 34-36; col. 4 line 34) having a hydrolysable reaction site, on a dielectric layer provided on a substrate and heating the coating (col. 24 lines 29-34).

Regarding claim 21, Ushifusa et al. disclose the alternating current type plasma according to claim 18, wherein the alkaline earth metal compound having a hydrolysable reaction site is at least one member selected from an organic compound of magnesium (di(n-butoxy)magnesium; col. 24 lines 34-36; col. 4 line 34) and an inorganic compound of magnesium.

Regarding claim 22, Ushifusa et al. disclose the alternating plasma display according to claim 21, wherein the organic compound of magnesium is magnesium alkoxide (di(n-butoxy)magnesium; col. 24 lines 34-36; col. 4 line 34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aboelfotoh U.S. Patent 4,429,303 in view of Van de Leest U.S. Patent 5,509,958.

Regarding claim 18, Aboelfotoh teaches disclose an alternating current type plasma display (abstract) comprising: a back substrate (Fig. 3 ref. 2) and a front substrate (Fig. 3 ref. 1) provided to as to face each other with a gas discharge space (ref. 20 area) sandwiched between the back and front substrates; a pair of electrodes (ref. 3A and 3B), covered with a dielectric layer (ref. 7), provided on one or both of the

substrates; and a protective layer (ref. 8) provided on the dielectric layer, but fails to teach the protective layer being produced by coating a coating liquid, substantially containing a partial hydrolyzate derived from an alkaline earth metal compound having a hydrolysable reaction site, on a dielectric layer provided on a substrate and heating the coating. Van de Leest in the analogous art teaches, the protective layer being produced by coating a coating liquid (claim 1), substantially containing a partial hydrolyzate (claim 1) derived from an alkaline earth metal compound (claim 1) having a hydrolysable reaction site, on a substrate and heating the coating (claim 7). Additionally, Van de Leest teaches incorporation of such a method of forming a protective layer to improve the process of providing a magnesium-oxide layer on glass at a temperature of maximally 250 C for plasma displays (col. 2 lines 8-13; col. 5 line 19).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the protective layer being produced by coating a coating liquid, substantially containing a partial hydrolyzate derived from an alkaline earth metal compound having a hydrolysable reaction site, on a substrate and heating the coating in the protective layer of Aboelfotoh, since such a modification would improve the process of providing a magnesium-oxide layer on glass at a temperature of maximally 250 C for plasma displays as taught by Van de Leest.

Regarding claim 19, Van de Leesten discloses wherein the partial hydrolyzate is prepared substantially from a composition comprising (1) an alkaline earth metal compound having a hydrolysable reaction site (col. 3 line 19), (2) an additive which can function to dissolve or disperse (col. 3 line 20) the alkaline earth metal compound in a

solvent and to permit the hydrolysis of the alkaline earth metal compound to proceed in a rate-controlling manner, (3) water (col. 3 line 22) is not more than stoichiometric amount relative to the hydrolysable reaction site, and (4) an organic solvent (col. 3 line 21). This claim is rejected for the same reasons found in claim 18.

Regarding claim 20, Aboelfotoh teaches an alternating plasma display comprising: a back substrate and a front substrate provided so as to face each other with a gas discharge space sandwiched between the back and front substrates; a pair of electrodes, covered with a dielectric layer, provided on one or both of the substrates; and a protective layer provided on the dielectric layer, the protective layer comprising an alkaline earth metal oxide film, but fails to teach the protective layer formed by coating a coating liquid, substantially containing a partial hydrolyzate prepared from a composition comprising (1) an alkaline earth metal compound having a hydrolysable reaction site, (2) an additive which can function to dissolve or disperse the alkaline earth metal compound in an organic solvent and to permit the hydrolysis of the alkaline earth metal compound to proceed in a rate-controlling manner, and an organic solvent, on a dielectric layer provided on a substrate and heating the coating. Van de Leesten in the analogous art teaches the protective layer formed by coating a coating liquid, substantially containing a partial hydrolyzate prepared from a composition comprising (1) an alkaline earth metal compound having a hydrolysable reaction site (col. 3 line 19), (2) an additive which can function to dissolve (col. 3 line 20 glycol) or disperse the alkaline earth metal compound in an organic solvent (col. 3 line 21) and to permit the hydrolysis of the alkaline earth metal compound to proceed in a rate-controlling manner,

and an organic solvent (col. 3 line 21), on a dielectric layer provided on a substrate and heating (col. 3 line 56; col. 4 line 20) the coating. Additionally, Van de Leest teaches incorporation of such a method of forming a protective layer to improve the process of providing a magnesium-oxide layer on glass at a temperature of maximally 250 C for plasma displays (col. 2 lines 8-13; col. 5 line 19).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the protective layer being produced by coating a coating liquid, substantially containing a partial hydrolyzate derived from an alkaline earth metal compound having a hydrolysable reaction site, on a substrate and heating the coating in the protective layer of Aboelfotoh, since such a modification would improve the process of providing a magnesium-oxide layer on glass at a temperature of maximally 250 C for plasma displays as taught by Van de Leest.

Regarding claim 21, Van de Leest discloses wherein the alkaline earth metal compound having a hydrolysable reaction site is at least one member selected from an organic compound of magnesium and an inorganic compound of magnesium (claim 1). This claim is rejected for the same reasons found in claim 18.

Regarding claim 22, Van de Leesten discloses wherein the organic compound of magnesium is magnesium alkoxide (claim 1; col. 3 lines 24-27). This claim is rejected for the same reasons found in claim 18.

Regarding claim 23, Van de Leesten discloses wherein the alkaline earth metal oxide film is formed of magnesium oxide particles having a diameter of not more than

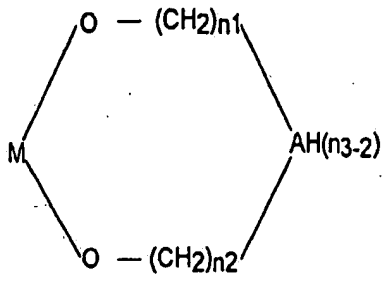
0.3 μm (col. 4 line 39; claim 4). This claim is rejected for the same reasons found in claim 18.

Regarding claim 24, Van de Leesten discloses wherein the additive is at least one member selected from a glycol compound (col. 3 line 20), a glycol derivative (col. 3 line 20). This claim is rejected for the same reasons found in claim 18.

Allowable Subject Matter

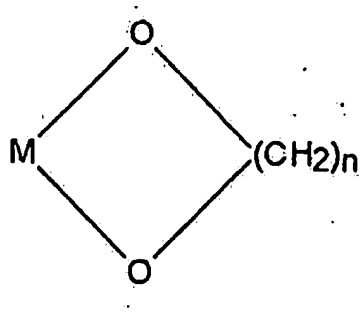
Claims 25 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 25, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests alternating current type plasma display including the combination of all the limitations as set forth in claim 25, and specifically wherein the partial hydrolyzate is derived from the alkaline earth metal compound is represented by the following structural formula



could not be found elsewhere in prior art.

Regarding claim 26, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an alternating plasma display including the combination of all the limitations as set forth in claim 26, and specifically



could not be found elsewhere in prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph Williams
for

Glenn Zimmerman

Vip Patel
Primary Examiner
AU 2879